

WHAT IS CLAIMED IS:

1. A node in a ring network system in which a plurality of nodes are connected in loop through a ring transmission path, comprising:

5        a storage unit having storage areas according to insertion nodes at which arrived packets are inserted into said ring transmission path, and accumulating the packets in said storage areas according to said insertion nodes; and

      a read control unit reading the packets in a fair way on

10      the basis of predetermined weights respectively from said storage areas according to said insertion nodes.

      2. A node according to claim 1, further comprising:

      an identifying unit identifying said insertion node at 15 which the packets are inserted into said ring transmission path on the basis of specifying information contained in the packet; and

      an accumulation control unit accumulating the packets in the corresponding every-insertion-node oriented storage area

20      on the basis of a result of identifying said insertion node.

      3. A node according to claim 1, further comprising a storage module stored with mappings between uniform weight values as the predetermined weights and said insertion nodes.

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      4. A node according to claim 1, further comprising a storage module stored with mappings between weight values different from

each others as the predetermined weights and said insertion nodes.

5. A node according to claim 4, wherein the weight values  
5 different from each other as the predetermined weights are  
proportional to the number of connections for inserting the  
packets.

6. A node according to claim 4, wherein the weight values  
10 different from each other as the predetermined weights are  
proportional to a total sum of reserved bandwidths of the  
connection for inserting the packets.

7. A node according to claim 2, wherein the  
15 every-insertion-node oriented storage area of said storage unit  
is physically segmented into a plurality of areas, and  
said accumulation control unit permits only the packet  
from said corresponding insertion node to be written to each  
of the segmented areas of the every-insertion-node oriented  
20 storage area.

8. A node according to claim 2, wherein the  
every-insertion-node oriented storage areas of said storage unit  
are provided by dynamically logically segmenting a shared storage  
25 area, and  
said accumulation control unit writes the packet from said  
corresponding insertion node to each of the every-insertion-node

oriented storage areas into which the shared storage area is dynamically logically segmented.

9. A node according to claim 2, wherein said identifying unit identifies said insertion node at which the packet is inserted into said ring transmission path on the basis of the insertion node number as the specifying information contained in the packet.

10. A node according to claim 2, further comprising a storage module stored with mappings between traffic identifiers of the packets and the insertion node numbers, and

wherein said identifying unit identifying said insertion node at which the packet is inserted into said ring transmission path on the basis of the insertion node number corresponding to the traffic identifier, as the specifying information contained in the packet, which is obtained by referring to said storage module.

11. A packet control method in a ring network system in which a plurality of nodes are connected in loop through a ring transmission path, comprising:

providing storage areas according to insertion nodes at which arrived packets are inserted into said ring transmission path, and accumulating the packets in said storage areas according to said insertion nodes; and

reading the packets in a fair way on the basis of

predetermined weights respectively from said storage areas according to said insertion nodes.

12. A packet control method according to claim 11, further

5 comprising:

identifying said insertion node at which the packets are inserted into said ring transmission path on the basis of specifying information contained in the packet; and

accumulating the packets in the corresponding

10 every-insertion-node oriented storage area on the basis of a result of identifying said insertion node.

13. A packet control method according to claim 11, further comprising storing mappings between uniform weight values as 15 the predetermined weights and said insertion nodes.

14. A packet control method according to claim 11, further comprising storing mappings between weight values different from each others as the predetermined weights and said insertion

20 nodes.

15. A packet control method according to claim 14, wherein the weight values different from each others as the predetermined weights are proportional to the number of connections for 25 inserting the packets.

16. A packet control method according to claim 14, wherein

the weight values different from each other as the predetermined weights are proportional to a total sum of reserved bandwidths of the connection for inserting the packets.

5        17. A packet control method according to claim 12, further comprising permitting only the packet from said corresponding insertion node to be written to each of a plurality of physically segmented areas of the every-insertion-node oriented storage area.

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18. A packet control method according to claim 12, further comprising writing the packet from said corresponding insertion node to each of the every-insertion-node oriented storage areas into which a shared storage area is dynamically logically segmented.

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19. A packet control method according to claim 12, further comprising identifying said insertion node at which the packet is inserted into said ring transmission path on the basis of 20 the insertion node number as the specifying information contained in the packet.

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20. A packet control method according to claim 12, further comprising:

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      storing mappings between traffic identifiers of the packets and the insertion node numbers; and  
      identifying said insertion node at which the packet is

inserted into said ring transmission path on the basis of the insertion node number corresponding to the traffic identifier, as the specifying information contained in the packet, which is obtained by referring to a content of the storage.